

**ABSTRACT**

The invention applies to the oil-producing industry and is intended for the intensification of processes increasing the yield of oil wells developed by conventional methods during production of high viscosity oils. Both objects of said invention have as a technical result an increase in the permeability of a reservoir and a reduction in the viscosity of oil, added to an increase in environmental safety by avoiding use of chemical reagents and steam generators. First object of said invention applies a high power ultrasonic field in the well bottom 10 zone that reduces viscosity of oil, also heating said zone. Second object of said invention comprises a surface ultrasonic generator and at least one ultrasonic magnetostrictive radiator placed at end of oil well tubing, using high frequency currents that warm said tubing maintaining viscosity of oil during transport to the surface.